

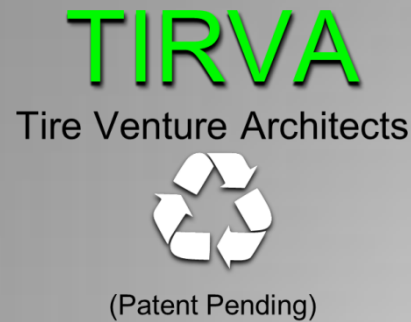
# TIRVA

Tire Venture Architects



(Patent Pending)





# TIRVA

# 2016 Colorado Waste Tire Market Development Conference

Presentation by  
**Eric Davis, CEO/Founder**

**June 22nd, 2016**

# Journey to tire derived products

- **Colorado tire situation – news - monofills**
- **60+ million tires in waste facilities in Colorado**
- **6,000,000 waste tires generated annually**
- **CO laws requires repurposing of waste tires by 2024**
- **Environmental impacts – how to make a difference**
- **CDPHE, State, Corporations looking for solutions**

# Solutions and Product Requirements

- **Founded TIRVA to implement tire solutions**
- **Focused on methods to utilize tires as a “raw good”**
- **What can we make/build?**
- **Requirement: *High-Volume and High-Value* products**
- **Superior performance to competition**
- **Economic viability**

# Customers and Products

- ***Customers and products are key to viability!***
  - ***Who* are our customers?**
  - ***What* products do they buy?**
  - ***Why* do they buy?**
  - ***When* do they buy?**
  - ***How* do they purchase?**
- **What products offer the most value?**

## Product Research and Business Case

- Targeted largest potential customers/buyers
  - States, cities, federal agencies, major corporations, etc.
- Approached each customer with product lists, benefits, possible pricing (CDOT, RTD, DIA, Cities, etc.)
- Narrowed product research – Meet customer needs!
- Evaluated mfg. costs, equipment, delivery, etc.
- Destination - *Strong product(s) & business case*

## Final Products: Barriers and Blocks

- **TIRVA products: Large-scale barriers and blocks**
- **Utilizes equivalent 50-70 tires per product**
- **Strong alternative to Concrete & Plastic**
- **Superior Benefits**
- **Multiple applications**
  - **Parking lots, rock fall, beaches, shoreline, special events, perimeter control, roadway, containment, military, etc.**



# Barriers

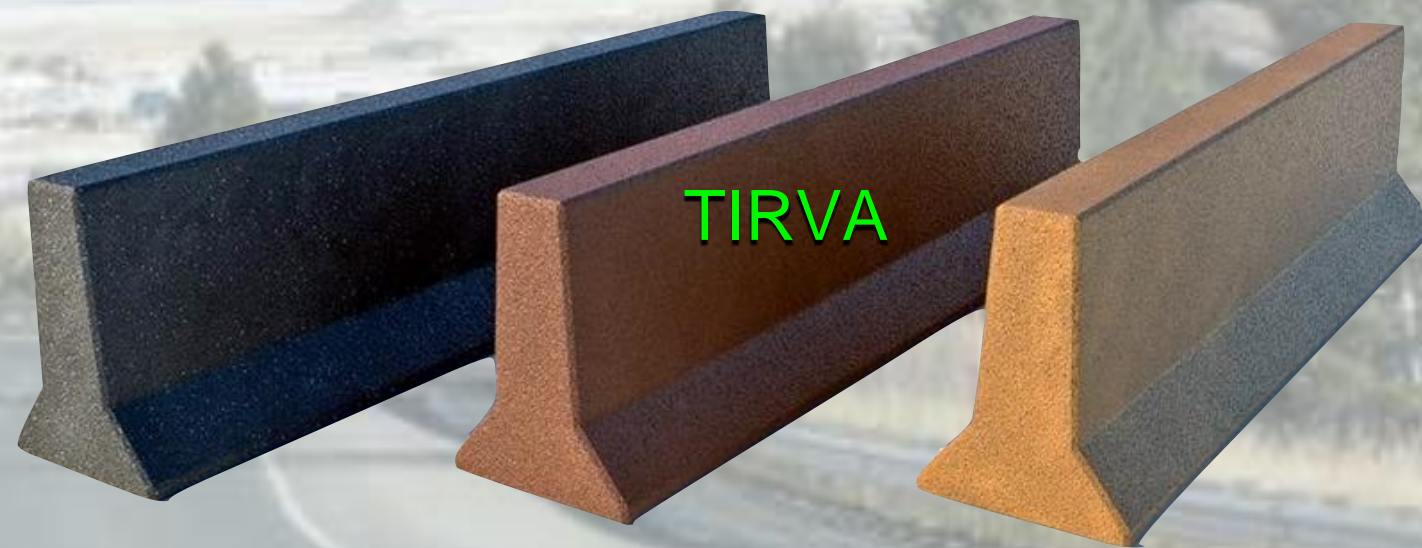
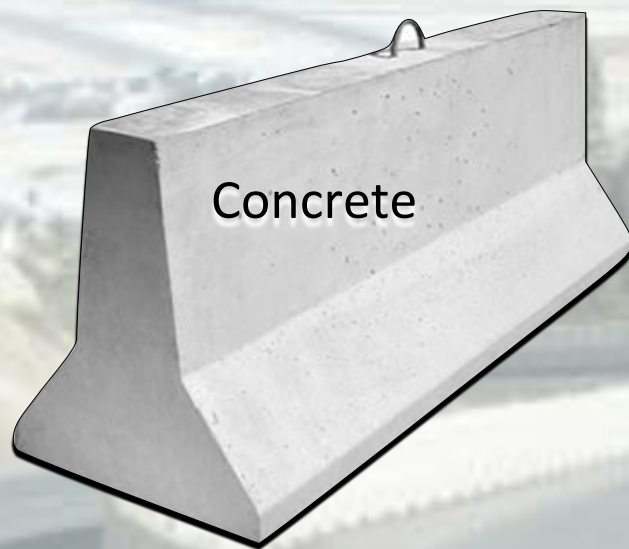


# Blocks





# U.S. Market Pre-Cast Concrete Barriers / Blocks



- Chips/cracks easily
- Rising material costs
- Global, massive CO2 footprint

- **Superior performance benefits**
- **Competitive pricing**
- **Green ~ 90% less CO2 footprint**



# TIRVA "T" Barriers vs. Concrete "C"

| T | C |
|---|---|
|---|---|

TIRE VENTURE ARCHITECTS

## PRACTICAL

REDUCE: Maintenance, logistical, transportation problems  
SIMPLE: Efficient manufacturing with indefinite tire supply  
LONGEVITY: Extreme durability (no chips, cracks)  
IMPACT: Superior energy dispersion with rubber  
SAFETY: Rubber, soft, rounded corners  
CUSTOM: Weight, shape, size

|   |  |
|---|--|
| X |  |
| X |  |
| X |  |
| X |  |
| X |  |
| X |  |

## ECONOMICAL

Competitive alternative with low cost tire supply  
O&M savings (Reduced life-cycle costs)  
Government offsets

|   |  |
|---|--|
| X |  |
| X |  |
| X |  |

## ENVIRONMENTAL

Large scale and continuous solution (75-125 tires per barrier)  
Reduces chemical and biological damage  
Green product with manufacturing advantages  
100% recycled tire product utilization

|   |  |
|---|--|
| X |  |
| X |  |
| X |  |
| X |  |

## POLITICAL

Better carbon footprint  
Repurposes largest waste tire dump site in US (in CO)  
Substantive win for state leaders, legislators & agencies

|   |  |
|---|--|
| X |  |
| X |  |
| X |  |

REDUCE



REUSE REMAKE REPLACE

**TIRVA**

Barriers & Blocks



## **CDPHE and Market Development**

- **Worked with CDPHE directly for multiple years**
- **CDPHE support was key (programs, contacts, etc.)**
- **Market Development Funds were/are critical**
  - **Assist with new products, markets, opportunities**
- **RREO Grant award - \$650,000**
- **Thank you for support!**

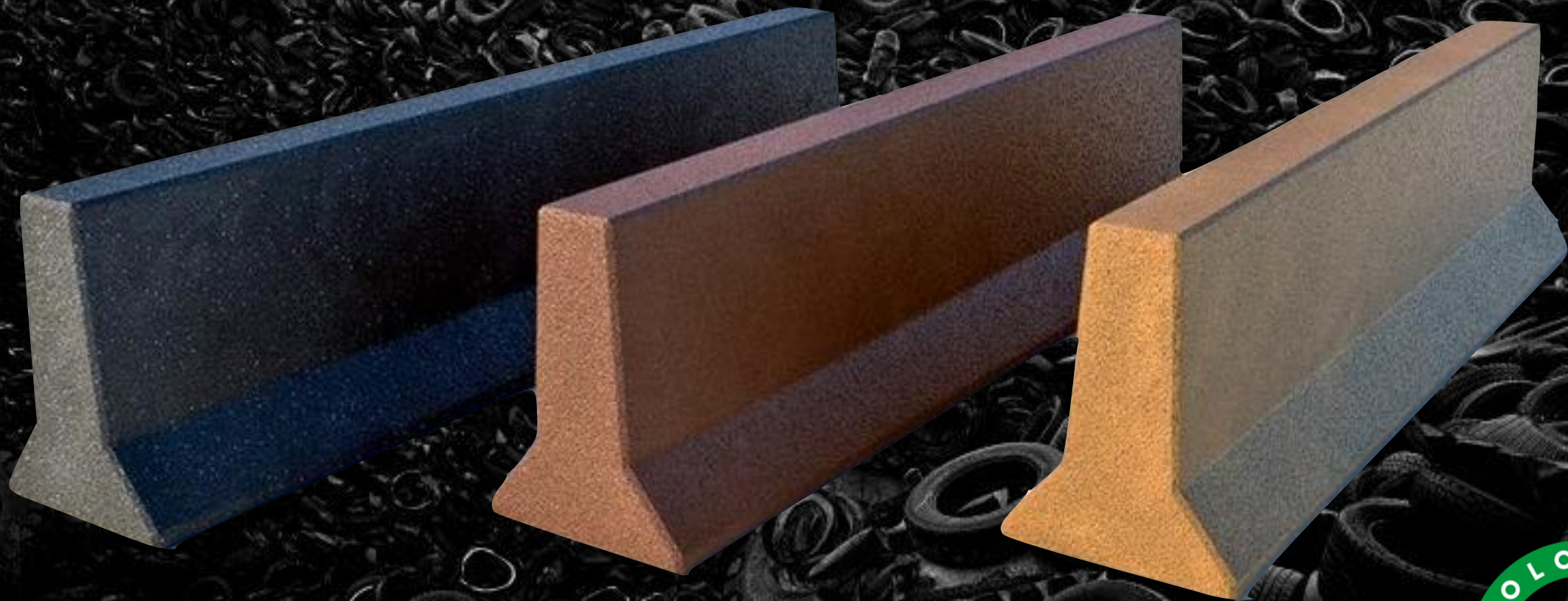


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TIRVA (legal name MikaTek, Ltd.)



# Thank You!

## Questions ?

Website: [www.tirva.co](http://www.tirva.co)

.CO = Colorado Company